

What is claimed is:

Claim 1. An adjustable intraocular lens system for an
5 individual's eye, said intraocular lens system comprising:

- a. a primary intraocular lens having an optic
with an optical axis, a peripheral edge, an
anterior surface and a posterior surface, said
preliminary intraocular lens optic having a
10 primary optical power, said primary
intraocular lens having a narrow slit formed
adjacent the peripheral edge of the primary
intraocular lens optic, and having
attachment means fixed to said primary
15 intraocular lens optic for maintaining said
primary intraocular lens optic optical axis
centered along the optical axis of an
individual's eye; and
- b. a secondary intraocular lens having an optic
20 with an anterior surface and a posterior
surface, said optic having a secondary optical
power and having an attachment tab extending
generally radially from the optic, said
attachment tab being sized to penetrate the
25 primary intraocular lens slit with the
secondary intraocular lens optic posterior
surface laying against the primary intraocular
lens optic anterior surface, whereby said
secondary intraocular lens optic power
30 provides optical power correction to the
primary intraocular lens optic power.

Claim 2. The adjustable intraocular lens system as
claimed in Claim 1, wherein said primary intraocular lens
35 slit is formed through said primary intraocular lens optic.

Claim 3. The adjustable intraocular lens system as claimed in Claim 1, wherein a plurality of slits are formed in regions of said primary intraocular lens adjacent said primary intraocular optic peripheral edge.

Claim 4. The adjustable intraocular lens system as claimed in Claim 1, wherein said secondary intraocular lens optic has a plurality of attachment tabs extending radially from said secondary intraocular lens optic in locations enabling penetration of a selected one of said tabs into said primary intraocular lens slit.

Claim 5. The adjustable intraocular lens system as claimed in Claim 1, wherein said tab radially extending from said secondary intraocular lens optic is wedge-shaped, being tapered in thickness toward a free end of the tab, so as to facilitate insertion of said tab into said primary intraocular lens slit.

Claim 6. The adjustable intraocular lens system as claimed in Claim 1, wherein said primary intraocular lens optic is formed having a tab extending generally radially from the optic edge, said slit being formed in said primary intraocular lens optic tab.

Claim 7. The adjustable intraocular lens system as claimed in Claim 1, wherein said primary intraocular slit is formed in said attachment means adjacent said primary intraocular lens optic peripheral edge.

Claim 8. The adjustable intraocular lens system as claimed in Claim 1, wherein said secondary intraocular lens optic has a central thickness between about 0.1 mm and about 0.4 mm.

✓

Claim 9. An adjustable intraocular lens system for an individual's eye, said intraocular lens system comprising:

5 a. a primary intraocular lens having an optic with an optical axis, a peripheral edge, an anterior surface and a posterior surface, said preliminary intraocular lens optic having a primary optical power, said primary intraocular lens having a plurality of narrow slits formed adjacent the peripheral edge of the optic, and having attachment means fixed to said primary intraocular lens optic for maintaining said primary intraocular lens optic optical axis centered along the optical axis of an individual's eye; and

10

15

 b. a secondary intraocular lens having an optic with an anterior surface and a posterior surface, said secondary intraocular lens optic having a secondary optical power and having a plurality of attachment tabs extending generally radially from said optic, said attachment tabs being sized and located to penetrate the primary intraocular lens slits with the secondary intraocular lens optic posterior surface laying against the primary intraocular lens optic anterior surface, whereby said secondary intraocular lens optic power provides optical power correction to the primary intraocular lens optic power.

20

25

30

Claim 10. The adjustable intraocular lens system as claimed in Claim 9, wherein said primary intraocular lens slits are formed through said primary intraocular lens optic.

35

Claim 11. The adjustable intraocular lens system as claimed in Claim 9, wherein said plurality of tabs radially extending from said secondary intraocular lens optic are wedge-shaped, each said tab being tapered in thickness toward a free end of the tab, so as to facilitate insertion of said tab into a corresponding one of said primary intraocular lens slits.

Claim 12. The adjustable intraocular lens system as claimed in Claim 9, wherein said primary intraocular lens optic is formed having a plurality of tabs extending generally radially from the optic edge, said slits being formed in said primary intraocular lens optic tabs.

Claim 13. The adjustable intraocular lens system as claimed in Claim 9, wherein said primary intraocular lens slits are angled inwardly from said primary intraocular lens optic anterior surface and radially outwardly from said optical edge.

Claim 14. The adjustable intraocular lens system as claimed in Claim 9, wherein the plurality of primary intraocular lens slits comprises two peripherally spaced-apart slits and wherein said plurality of secondary intraocular optic tabs includes at least two tabs located such that said tabs can be individually inserted into said two primary intraocular lens slits, whereby orientation of the secondary intraocular lens relative to the primary intraocular lens can be selected to provide required power adjustment.

Claim 15. The adjustable intraocular lens system as claimed in Claim 9, wherein the plurality of secondary intraocular lens tabs comprises two peripherally spaced-apart tabs and wherein said plurality of primary intraocular slits includes at least two slits located such

that said two secondary intraocular lens tabs can be individually inserted into said primary intraocular lens slits, whereby orientation of the secondary intraocular lens relative to the primary intraocular lens can be
5 selected to provide required power adjustment.

Claim 16. The adjustable intraocular lens system as claimed in Claim 9, wherein each of said plurality of primary intraocular lens slits have a slit height of
10 between about 0.1 mm and about 0.25 mm.

Claim 17. The adjustable intraocular lens system as claimed in Claim 9, wherein each of said plurality of secondary intraocular lens optic tabs has a small hole
15 formed at a base thereof whereby an instrument can be inserted into said hole to assist the installation of a tab into a primary intraocular lens slit.

Claim 18. The adjustable intraocular lens system
20 as claimed in Claim 9, wherein said secondary intraocular lens optic has a central thickness between about 0.1 mm and about 0.4 mm.

Claim 19. The adjustable intraocular lens system
25 as claimed in Claim 9 wherein said primary intraocular lens comprises a dual optic intraocular lens.

Claim 20. The adjustable intraocular lens system as claimed in Claim 9 wherein a curvature of said secondary
30 intraocular lens optic posterior surface matches a curvature of the primary intraocular lens optic anterior surface,

Claim 21. A secondary intraocular lens which
35 comprises an optic with an anterior surface, a posterior surface and a peripheral edge, said optic having a

secondary optical power and having an attachment tab
extending generally radially from the optic peripheral
edge, said tab being wedge-shaped, tapering in thickness
toward a free end thereof, said optic having a central
5 thickness between about 0.1m and about 0.4 mm.

Claim 22. The secondary intraocular lens as
claimed in Claim 21 wherein said secondary intraocular lens
optic is formed having a plurality of attachment tabs
10 extending generally radially from the optic peripheral
edge.

Claim 23. The secondary intraocular lens as
claimed in Claim 21 wherein said secondary optic is formed
15 from an elastically-deformable, biocompatible material.

Claim 24. The secondary intraocular lens as
claimed in Claim 23 wherein said biocompatible material is
selected from the group consisting of silicone and acrylic
20 materials.

Claim 25. The secondary intraocular lens as
claimed in Claim 21 wherein said attachment tab has a small
positioning hole formed in a base region thereof.

25

Claim 26. The secondary intraocular lens as
claimed in Claim 21 wherein said secondary optical power
includes a spherical dioptric power between about -3 and
about +3, a cylinder dioptric power between about -5 and
30 about +5 and an add dioptric power between about 0.0 and
about +4.

Claim 27. A primary intraocular lens which
comprises:

35 a. an optic with an optical axis, a peripheral
edge, an anterior surface and a posterior

surface, said preliminary intraocular lens optic having a primary optical power, said primary intraocular lens having a slit formed adjacent the peripheral edge of said primary intraocular lens optic; and

- b. attachment means fixed to said primary intraocular lens optic for maintaining said primary intraocular lens optic optical axis centered along the optical axis of an individual's eye.

Claim 28. The primary intraocular lens as claimed in Claim 27 wherein a plurality of slits are formed adjacent the peripheral edge of said primary intraocular lens optic.

Claim 29. The primary intraocular lens as claimed in Claim 27 wherein said slit is formed in said primary intraocular lens optic.

Claim 30. The primary intraocular lens as claimed in Claim 27 wherein said slit is formed in said attachment means adjacent the preliminary intraocular lens optic peripheral edge.

Claim 31. The primary intraocular lens as claimed in Claim 27 wherein said preliminary intraocular lens optic is formed having a tab radially extending from said peripheral edge thereof, said slit being formed in said tab.

Claim 32. The primary intraocular lens as claimed in Claim 27 wherein said slit is formed at an angle, being slanted inwardly from said primary intraocular lens optic anterior surface and radially outwardly.

Claim 33. The primary intraocular lens as claimed in Claim 27 wherein said primary optical power includes a spherical dioptric power between about -10 and about +35, a cylinder dioptric power between about -10 and about +10 and
5 an add dioptric power between about 0.0 and about +4, and an accommodating range dioptric power between about 0.0 and about +4.

Claim 34. The primary intraocular lens as claimed
10 in Claim 27 wherein said primary intraocular lens comprises a dual optic intraocular lens.

Claim 35. The primary intraocular lens as claimed in Claim 27 wherein said slit has a slit height of between
15 about 0.1 mm and about 0.25 mm and has an arc length between about 5 degrees and about 80 degrees.

Claim 36. A method for modifying the optical characteristics of a primary intraocular lens previously
20 implanted in a patient's eye, the primary intraocular lens having a primary optic with a narrow slit formed adjacent a periphery of said primary optic, and having a primary optical power, said method comprising the steps of:

- 25 a. forming a thin, elastically deformable secondary optic having a diameter substantially equal to a primary optic diameter at said primary optic slit, and having a secondary optical power and an insertion tab extending radially outward from a secondary optic peripheral edge;
- 30 b. making a small, ocular incision in a patient's eye;
- c. inserting said secondary optic into said patient's eye through said ocular incision with

the secondary optic posterior surface laying on
a primary optic anterior surface so as to
combine the secondary optical power with the
primary optical power;

- 5 d. positioning the secondary optic until said
secondary optic tab is adjacent a entrance of
said primary intraocular lens slit; and
- e. inserting said secondary optic tab into said
primary intraocular lens slit.

10

 Claim 37. The method as claimed in Claim 36,
wherein said previously implanted primary intraocular lens is
formed having a plurality of said slits arranged in a first
pattern around the peripheral edge of the primary optic and
15 in proximity thereto, and wherein the step of forming said
secondary optic includes forming the secondary optic to have
a plurality of said insertion tabs extending radially outward
from the secondary optic peripheral edge in a second pattern
that is compatible with said primary intraocular lens first
20 pattern of slits.

 Claim 38. The method as claimed in Claim 37,
wherein the step of positioning the secondary optic
includes positioning the secondary optic in a desired
25 orientation relative to said primary optic so as to provide
an optimum optical power combination of the primary and
secondary optics, and wherein the step of positioning the
secondary optic until said secondary optic tab is adjacent
a entrance of said primary optic slit includes positioning
30 the secondary optic until at least two of the secondary
optic tabs are adjacent corresponding primary intraocular

c. explanting said detached secondary intraocular lens from the patient's eye through said ocular incision while leaving said primary intraocular lens implanted in the patient's eye.

5

Claim 42. The method for modifying the optical characteristics of an adjustable intraocular lens system as claimed in Claim 41, including the steps of implanting, through said ocular incision, another secondary intraocular
10 lens in the patient's eye in place of the explanted secondary intraocular lens, and attaching the other secondary intraocular lens to the primary intraocular lens.